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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/475,093	12/30/1999	Matthew D. Halfant	GENSP034	3180

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EXAMINER

HUYNH, CONG LAC T

ART UNIT	PAPER NUMBER
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2178

DATE MAILED: 06/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/475,093

Applicant(s)

HALFANT, MATTHEW D.

Examiner

Cong-Lac Huynh

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This action is responsive to communications: response after final filed on 4/22/04 to the application filed on 12/30/99.
2. Claims 21-41 are pending in the case. Claims 21, 28, 35 are independent claims.
3. The objection of claim 21 maintains since there is no amendment of the claim.

Claim Objections

4. Claim 21 is objected to because of the following informalities: the phrase "enhancing a selected digital video framess, or a portionss thereof..." is not correct since *a selected digital video frame or a portion* can not be in plural. Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 21-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over McDade et al. (US Pat No. 6,490,324 B1, 12/3/02, filed 12/8/98) in view of Tillman et al. (US Pat No. 6,496,980 B1, 12/3/02, filed 12/7/98).

Regarding independent claim 21, McDade discloses:

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- selecting a particular one of the digital video frames for synchronizing (col 11, line 60 to col 12, line 19: selecting a desired sequence from the video and audio stream for synchronizing the video and audio in the proxy filter)
- selecting other of the digital video frames associated with the digital video frame to be enhanced (col 11, lines 7-24: the picture decoding and the sub-picture decoding suggest that the sub-picture frames are associated with the video frame; col 13, lines 3-25: the fact that the frames are encoded based on the past and future frames implies an association between a particular frame and other video frames; since McDade discloses selecting a particular frame for synchronizing and the association between the other video frames and the selected video frame, selecting other frames associated with the selected frame for synchronizing is suggested when selecting a video frame for synchronizing)

McDade does not disclose:

- enhancing the selected video frame based upon information included in the other digital video frames and the particular digital video frame

Tillman discloses:

- enhancing the selected video segment by providing a larger image for the selected video segment (col 7, lines 35-50, col 10, line 57 to col 11, line 15)

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined Tillman into McDade since Tillman discloses enhancing the selected video segment with the enlarged image providing the advantage to apply to the selected video frame in McDade for improving the image quality of the selected

portion of the video based upon the information of the selected portion of the video and the other frames associated with it beside rendering the desired result of synchronizing of video and audio data.

Regarding claim 22, which is dependent on claim 21, McDade discloses:

- obtaining movement information for the selected digital video frame and the other digital video frames (col 3, lines 32-55: the set of motion compensation instructions is included in the encoded video frames used for decompressing)

Regarding claim 23, which is dependent on claim 22, McDade discloses:

- identifying portions of the associated digital video frames corresponding to the portion to be synchronized (col 11, lines 7-39: the sub-pictures are portions of the video frames associated with the selected portion)

McDade does not explicitly disclose:

- enhancing the selected video frames based upon information included in the other digital video frames and the particular digital video frame

Tillman discloses:

- enhancing the selected video segment by providing a higher quality image with the larger image (col 7, lines 35-50, col 10, line 57 to col 11, line 15)

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined Tillman into McDade since Tillman discloses enhancing the selected video segment by providing larger image to a user thus motivating to

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incorporate in McDade for producing a higher quality of image of the selected video along with the good result of synchronizing video and audio data as in McDade.

Regarding claim 24, which is dependent on claim 22, McDade does not explicitly disclose:

- selecting another of the stream of digital video frames for enhancement when the enhancement is complete
- continuing the selecting until all of the selected digital video frames, or portions thereof, have been enhanced

Instead, McDade discloses manipulating selected ones of the enhanced digital video frames (col 11, lines 25-39; col 9, lines 26-57).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to have modified McDade to include the above steps since the fact that manipulating the selected ones of the digital video frames, which is considered as an enhancement of the encoded video frames, is performed for each of the video data streams and continues to perform for all of the selected video frames.

Regarding claim 25, which is dependent on claim 24, McDade and Tillman discloses manipulating selected ones of the enhanced digital video frames (McDade: col 11, lines 25-39; col 9, lines 26-57; Tillman: col 7, lines 35-50, col 10, line 57 to col 11, line 15).

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Regarding claim 26, which is dependent on claim 22, McDade does not explicitly disclose that manipulating is selected from a group comprising: a zoom operation, a contrast enhancement operation, a luminance control operation, a color adjustment operation, a gamma correction operation, an image sharpening operation, and a color saturation operation.

Tillman discloses manipulating is selected from a group comprising: a zoom operation, a contrast enhancement operation, a luminance control operation, a color adjustment operation, a gamma correction operation, an image sharpening operation, and a color saturation operation (col 10, line 57 to col 11, line 15: enhancing a selected video can be done by providing smoother images, larger images, clearer images *where providing larger images is a zoom operation*).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have combined Tillman into McDade since Tillman provides the zoom feature for enhancing a selected video thus motivating to incorporate into McDade for providing higher quality images to users instead of merely synchronizing a selected video.

Regarding claim 27, which is dependent on claim 26, McDade discloses that the method is executed by a processor unit included in a digital video disc (DVD) player (figure 2; col 9, line 57 to col 10, line 35).

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Claims 28-41 are for a computer program product and an apparatus of method claims 21-27, and are rejected under the same rationale.

Response to Arguments

7. Applicant's arguments with respect to claims 21-41 have been considered but are moot in view of the new ground(s) of rejection.

Applicants argue that McDade fails to disclose enhancing the selected digital video frame based upon information included in the selected video frame and the other digital video frames associated with it since the color space conversion (col 11, lines 25-39) is not enhancing a digital video frame (Remarks, page 7).

Examiner agrees.

Tillman, in combination with McDade, discloses enhancing a selected video frames (col 7, lines 35-50; col 10, line 57 to col 11, line 15) based upon information included in the selected video frame and the other digital video frames associated with it (as mentioned in the rejection above).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Boys (US Pat No. 6,516,340 B2, 2/4/03, filed 7/8/99).

Tonomura et al. (US Pat No. 6,571,054 B1, 5/27/03, filed 11/9/98).

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Feinleib (US Pat No. 6,637,032 B1, 10/21/03, filed 1/6/97).

Hamanaka (US Pat No. 6,650,783 B2, 11/18/03, filed 1/14/99).

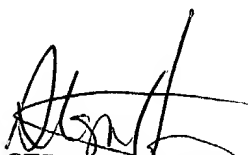
Guo et al., Fast and Adaptive Semantic Object Extraction from Video, IEEE 1999, pages 1417-1421.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cong-Lac Huynh whose telephone number is 703-305-0432. The examiner can normally be reached on Mon-Fri (8:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Herndon can be reached on 703-308-5186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Clh
6/2/04


STEPHEN S. HONG
PRIMARY EXAMINER